

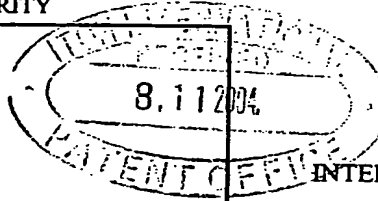
# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

# PCT

To:  
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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year)

**10.8.2004**

Applicant's or agent's file reference

**R04052PCT**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

**PCT/JP2004/005376**

International filing date (day/month/year)

**15.04.2004**

Priority date (day/month/year)

**17.04.2003**

International Patent Classification (IPC) or both national classification and IPC

Int.Cl. **H04L 5/04, H02J 13/00, H04Q 9/00, H04L7/00, H04L25/49**

Applicant

**RICOH COMPANY, LTD.**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

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**5K 9647**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/005376

Box No. I      Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing  
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format  
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/ 005376

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:

- ☒ paid additional fees  
☐ paid additional fees under protest  
☐ not paid additional fees

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is

- ☐ complied with  
☒ not complied with for the following reasons:

The "special technical features" of claim 1-12 relates to [a signal transmitting apparatus for sending and receiving a plurality of digital input signals input to said signal transmitting apparatus through a single signal line, said signal transmitting apparatus].

The "special technical features" of claim 13-17 relates to [the power supplying system for supplying a power from a plurality of the power supplying devices to a plurality of lads, said power supplying system].

The "special technical features" of claim 18-29 relates to [a serial communication apparatus for conducting a serial communication by a half-duplex communication between a first sending/receiving circuit and a second sending/receiving circuit in that at least one first sending/receiving circuit is connected to at least one second sending/receiving circuit through a transmission channel, wherein each of said first sending/receiving circuit and said second sending/receiving circuit].

And the subject matter of claim 1 does not appear to be novel with respect to D1 = [JP 6-98380 A] and D2 = [JP 2002-101044 A].

The "special technical features" of claim 1-5 relates to the subject matter of claim 2.

The "special technical features" of claim 6, 7, 11, 12 relates to the subject matter of claim 6.

The "special technical features" of claim 8-10 relates to the subject matter of claim 8.

4. Consequently, this opinion has been established in respect of the following parts of the international application:

- ☒ all parts.  
☐ the parts relating to claims Nos. \_\_\_\_\_

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

**PCT/JP2004/ 005376**

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	<u>2-7, 9-12, 15-17, 20-29</u>	YES
	Claims	<u>1, 8, 13, 14, 18, 19</u>	NO
Inventive step (IS)	Claims	<u>5, 7, 9, 10, 12, 17, 20-29</u>	YES
	Claims	<u>1-4, 6, 8, 11, 13-16, 18, 19</u>	NO
Industrial applicability (IA)	Claims	<u>1-29</u>	YES
	Claims		NO

**2. Citations and explanations**

Document 1:JP 53-12215 A(NEC Co., Ltd.) 1978.02.03, Fig6  
Document 2:JP 8-79075 A(BURR-BROWN CORPORATION) 1996.03.22, Fig2  
Document 3:JP 2-185132 A(NEC Co., Ltd.) 1990.07.19, Fig2  
Document 4:JP 2002-101044 A(Fuji Xerox Co., Ltd.) 2002.04.05, line 20, column 7, page 5 to line 17, column 8, page 5  
Document 5:JP 4-91637 A(Mitsubishi Electric Co., Ltd.) 1992.03.25, Fig1-3  
Document 6:JP 4-322140 A(TOSHIBA Co., Ltd.) 1992.11.12, Fig4  
Document 7:JP 3-221696 A(Matsushita Electric Works, Ltd.) 1991.09.30, Fig1,2  
Document 8:JP 5-122759 A(FUJITSU Co., Ltd.) 1993.05.18, Fig3  
Document 9:JP 57-44209 A(SHARP Co., Ltd.) 1982.03.12, Fig2  
Document 10:JP 61-235246 A(Robert Bosch GmbH) 1986.10.20, Figure  
Document 11:JP 1-309448 A(Oki Electric Industry Co., Ltd.) 1989.12.13, Fig1

**Claim1-12**

The subject matter of claim 1,8 does not appear to be novel with respect to D1. Such subject matter appears to be known from D1,D4.

The subject matter of claim 2 does not appear to involve an inventive step in view of D1 and D2.

Fig2 in D2 discloses the subject matter [input resistances, of which number is a same number as the digital signals, and an inversion amplifying circuit formed by an operational amplifier, wherein a resistance value of each of the input resistances connecting to the inverting input terminals of the operational amplifier is set to correspond to a weight of each width of the digital input signals].

The technical feature [sending a plurality of digital input signals] in D1 and in D2 are concerned with mutually related technical fields. Therefore, the skilled person in the art would easily conceive the idea of employing the feature in D2 to substitute the feature disclosed in D1.

The subject matter of claim 3,4 does not appear to involve an inventive step in view of D1 and D2.

D1 discloses a product consisting of [the output voltage is obtained as an even voltage difference with respect to each combination of the digital input signals] which is regarded to fall within the definition in the present Claim 3.

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of: V. 2 .

The technical feature [a multiple of two] is not disclosed in D1. However, said feature is virtually suggested by the same document considering that [the output voltage is obtained as an even voltage difference with respect to each combination of the digital input signals].

The subject matter of claim 6,11 does not appear to involve an inventive step in view of D1 and D3.

Fig2 in D3 discloses the same subject matter of claim6.

The technical feature [receiving a plurality of digital signals] in D1 and in D3 are concerned with mutually related technical fields. Therefore, the skilled person in the art would easily conceive the idea of employing the feature in D3 to substitute the feature disclosed in D1.

The subject matter of claim 5,7,9,10,12 is neither disclosed in any of the documents cited in the ISR nor obvious to a person skilled in the art.

**Claim13-17**

The subject matter of claim 13, 14 does not appear to be novel with respect to D5. Such subject matter appears to be known from D5.

The subject matter of claim 13,14 does not appear to involve an inventive step in view of D6 and D7.

The technical feature [a power supplying system] in D6 and in D7 are concerned with same technical fields. Therefore, the skilled person in the art would easily conceive the idea of employing the feature [the controlling part conducts the operation control of the power supplying part through the communicating part] in D7 to substitute the feature disclosed in D6.

The subject matter of claim 15,16 does not appear to involve an inventive step in view of [D5, D8] or [D6 - D8].

D8 discloses the same subject matter of claim15,16.

The technical feature [a power supplying system] in D5 - D8 are concerned with same technical fields. Therefore, the skilled person in the art would easily conceive the idea of employing the feature [the controlling part conducts the operation control of the power supplying part through the communicating part] in D8 to substitute the feature disclosed in D5 or D6.

The subject matter of claim 17 is neither disclosed in any of the documents cited in the ISR nor obvious to a person skilled in the art.

**Claim18-29**

The subject matter of claim 18, 19 does not appear to be novel with respect to D9. Such subject matter appears to be known from D9.

The subject matter of claim 20-29 is neither disclosed in any of the documents cited in the ISR nor obvious to a person skilled in the art.